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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,437	12/04/2003	Robert Bonhard	81093114 (201-1307)	6820

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EXAMINER

SPISICH, GEORGE D

ART UNIT PAPER NUMBER

3616

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,437

Applicant(s)

BONHARD ET AL.

Examiner

George D. Spisich

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 3,4 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/4/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. Figure 1,2-5, drawn to vibration absorbers having a guide rod for guiding a mass and the vibration absorbers mounted on spokes of a steering wheel.
- II. Figure 1,2 and 6, drawn to vibration absorbers having a case which guides a mass and the vibration absorbers mounted on spokes of a steering wheel.
- III. Figure 7, drawn to vibration absorbers mounted within a rim of a steering wheel.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include

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all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Gary Smith (Reg. No. 39,376) on January 13, 2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 1,2,5-12 and 14-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3,4 and 13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

With respect to Claim 4, Examiner has interpreted the guide rod to support the mass for movement in the elected Species, and therefore, Claim 4 which claims the case supports the movement of the mass, relates to non-elected Species shown in Figures 1,2 and 6.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the vibration absorbers mounted to the steering shaft must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the originally filed Abstract is well in excess of 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,2,5-12 and 14-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is unclear. There is claimed "energy absorbing units mounted to the steering shaft". This is not clear and not shown by Applicant. The steering shaft is a separate element from a steering wheel and the term "steering shaft" may not be used to broadly relate to Applicant's disclosed and elected invention.

Claim 1, 2, 11 and 12 (at least), include the claim limitation that the movement is "tangential". This term is unclear. The term "tangential" is not accurate as the movement is within the radius of the steering wheel or apart from the steering shaft axis. Examiner suggests using the phrase "perpendicular to a radius of the steering wheel" to claim the desired movement.

Claim 8 is unclear. As stated above, the steering shaft cannot comprise a steering wheel. Furthermore, the mounting of the energy absorbing units to the steering wheel (in claim 8) when they were mounted to the steering shaft is unclear and inconsistent.

For examining purposed in this application, Examiner is interpreting claim 1 to claim energy absorbing units mounted to the steering wheel. Examiner considers a steering wheel to include a hub, spokes and a rim.

Claim 7 recites the limitation "the case" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "each energy absorbing unit" in line 4. There is insufficient antecedent basis for this limitation in the claim. The units had only previously been claimed as "torsional vibration absorbers".

Claim 18 recites the limitation "the secondary springs" in line 3. There is insufficient antecedent basis for this limitation in the claim. The claimed "resilient elements" in line 1-2 of claim 18 are not clearly claimed as additional resilient elements or as "secondary springs".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5,8,9,11,12,14,15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Manning (USPN 3,063,304).

Manning discloses a steering system (inherent) of a vehicle comprising a steering shaft rotatable about an axis to transfer steering commands to a steering gear (inherent) of the vehicle.

Manning discloses at least two energy absorbing units (see col, 2, lines 37-38 that states more than one of the devices may be used if desired) mounted to the steering wheel/shaft at respective first and second radially equidistant from the axis, each energy absorbing unit comprising a mass (5) supported for reciprocal movement along a path of movement oriented such that the mass travels "tangentially" with respect to a radius of the steering shaft. The device of Manning clearly allows for linear/straight

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line (with respect to the longitudinal axis of the device) movement which is "tangential" to the radius of the steering axis. Manning discloses first and second kinetic energy absorption device (15) applying a force to return the mass to a neutral position (this force may be a pulling force). The mass and kinetic energy absorption device have dynamic characteristics serving to absorb torsional vibrations experienced by the steering shaft.

The energy absorbing units would inherently be mounted "diametrically opposite relative to the steering shaft" for the necessary absorption.

Manning discloses what is considered a guide (11,8,18) fixed to the steering wheel, that restrains the mass for the "tangential movement".

The guide comprised a case (20) secured to the steering wheel (via the guide members) and the case (20) at least partially encloses the mass and the kinetic absorption device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,5-12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000-16300 in view of Chasseguet et al. (USPN 4,838,395).

JP '300 discloses a steering wheel inherently being an element of a steering system having a steering shaft having an axis and rotation of the steering shaft gives commands to the steering gear.

JP '300 discloses elements (11) on diametrically opposed spokes of a steering wheel at three o'clock and nine o'clock positions to counteract and absorb unwanted torsional vibrations in the steering wheel/shaft.

From Applicant's specification on page 9, Applicant has acknowledged the art recognized equivalents of replacing an electrical vibration absorber arrangement such as a piezoelectric element (such as in JP '300) with a mechanical absorber.

Any mechanical absorber that works to negate unwanted torsional vibration would be a proper replacement for the piezoelectric elements (11) of JP '300.

Chasseguet et al. disclose a torsional damping device arranged perpendicular to the radius of the rotary element. This damping device includes a mass (40b), two coil springs (15) that apply a force to the mass to urge it to neutral position and secondary springs (22b) which are disclosed as a "relatively rigid" plastic which is broadly considered a spring element. There is a "case" as the arrangement is housed and the "case" at least partially enclosed the spring and mass.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the steering arrangement of JP '300 by using two mechanical vibration absorber units such as the absorber taught by Chasseguet et al. an mounted in the manner taught by Chasseguet et al. which is perpendicular to a

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radius of the rotary element, which in this case the steering wheel so as to efficient and more affordably damper undesired torsional vibrations in a steering arrangement.

With respect to claim 7, the use of foam for the element 22b (even though disclosed as “relatively rigid”) would be an obvious matter of choice since it has been held to be within the general skill of a worker in the art to select a known material. The foam material would still perform the function of Chasseguet et al. and be considered a “spring” element.

Claims 1,2,5,8-12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000-16300 in view of Ito et al. (USPN 4,925,198).

JP ‘300 has been discussed in the prior rejection.

JP ‘300 discloses a steering wheel inherently being an element of a steering system having a steering shaft having an axis and rotation of the steering shaft gives commands to the steering gear.

JP ‘300 discloses elements (11) on diametrically opposed spokes of a steering wheel at three o’clock and nine o’clock positions to counteract and absorb unwanted torsional vibrations in the steering wheel/shaft.

From Applicant’s specification on page 9, Applicant has acknowledged the art recognized equivalents of replacing an electrical vibration absorber arrangement such as a piezoelectric element (such as in JP ‘300) with a mechanical absorber.

Any mechanical absorber that works to negate unwanted torsional vibration would be a proper replacement for the piezoelectric elements (11) of JP ‘300.

Ito et al. discloses a vibration absorber having a housing/case and a mass (39) that travels on a guide rod and two coil springs (41,42) that are kinetic energy absorbers that apply a force on the mass to return the mass to the neutral position.

The placement of the mechanical torsional vibration absorber on the spoke of the steering wheel of JP '300 and in a manner such that movement of the mass is "tangential" to a radius of the steering wheel and axis of the steering shaft is an obvious orientation to achieve the desired damping of the torsional vibrations as disclosed by JP '300.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the steering arrangement of JP '300 by substituting the mechanical vibration absorbers of Ito et al. for the piezoelectric absorber of JP '300 so as to provide an efficient and affordable way to dampen unwanted vibrations in a steering system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi (USPN 4,858,459), Misaji et al. (USPN 6,508,343), Oblizajek et al. (USPN 6,976,403), Suzuki (USPN 5,868,041), Aoi et al. (USPN 6,779,637), Osterberg et al. (USPN 5,873,438), Menzel et al. (USPUB 2005/0011714), Lang (USPN 1,432,604), Thomas (USPN 5,385,136), KR 2004046726, JP2003-40112, SU 1500541, JP2002-154439.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to George D. Spisich whose telephone number is (571) 272-6676. The examiner can normally be reached on Monday-Friday 9:00 to 6:30 except alt. Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571) 272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George D. Spisich
January 21, 2006



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